

CHAPTER 105
YARD WASTE DISPOSAL AND SOLID WASTE
COMPOSTING FACILITIES

567—105.1(455B,455D) General. This chapter shall apply to the composting of solid wastes, except animal manure, animal bedding and crop residue. If animal wastes are mixed with other solid wastes for the purpose of composting, this chapter does apply. Land application of yard waste shall be in conformance with this chapter and 567—Chapter 121, Iowa Administrative Code.

105.1(1) Two types of composting are allowed, yard waste and solid waste.

a. Yard waste composting involves only yard waste. If the yard waste composting facilities can operate in accordance with these rules, they are exempt from having a permit. If collection and recirculation of water is used, all solid waste composting criteria are applicable.

b. Solid waste. Composting involves any waste used in addition to or other than yard waste. Solid waste composting facilities shall require a permit. Solid waste composting facilities may include: windrows that are turned frequently, static piles with air circulation, aerated in-vessel techniques or other methods approved by the department. Solid waste composting shall include composting sewage sludge, municipal solid waste or any other waste with or without yard waste.

105.1(2) Beginning January 1, 1991, burial of yard waste at a sanitary landfill is prohibited. However, yard waste which was separated at its source from other solid waste may be accepted by a sanitary landfill for the purposes of soil conditioning or composting. The incineration of yard waste at a sanitary landfill is prohibited.

105.1(3) By March 21, 1991, each city and county shall, by ordinance, require persons within the city or county to separate yard waste from other solid waste generated. By January 1, 1991, municipalities which provide for a collection system for solid waste shall provide for a collection system for yard waste which is not composted.

105.1(4) The use of yard waste as land cover or soil conditioner is not prohibited. Land application of yard waste should be in conformance with this rule.

567—105.2(455B,455D) Exemptions. Projects not exempted must follow requirements relating to type of waste being composted as stated in this chapter.

105.2(1) Yard waste generated, composted and disposed of on the same premises where it originated does not require a permit. This composting shall not create a nuisance.

105.2(2) Tree chipping facilities are not regulated by this chapter.

105.2(3) Firewood processing facilities are not regulated by this chapter.

105.2(4) Composting facilities using only animal manure, animal bedding or crop residues as compost materials are not regulated by this chapter.

567—105.3(455B,455D) General operating requirements for all composting facilities. Solid waste composting facilities shall be operated in conformance with 567—Chapter 102 (567—102.1(455B) to 102.13(7)) and this rule. The plans required in 567—102.13(455B) shall detail the means by which the following operating requirements shall be complied with. Yard waste composting facilities do not have to comply with 567—Chapter 102, but they shall keep records on the premises showing compliance with this rule.

105.3(1) Materials resulting from composting or similar processes shall be innocuous and shall contain no sharp particles which would cause injury to persons handling the compost. Sale shall be in compliance with all applicable federal and state laws and local ordinances and regulations.

105.3(2) Solid waste which cannot be composted or which is removed during processing shall be handled in a manner which will not create pollution or a nuisance and shall be disposed of by another method provided in 567—Chapters 100 to 110, Iowa Administrative Code.

105.3(3) Solid waste including yard waste shall be unloaded at the operating areas only when an operator is on duty at that area.

105.3(4) The operating area for composting shall be as small as practicable and shall be surrounded with appropriate barriers to prevent litter from blowing beyond the operating areas.

105.3(5) The site shall be fenced to control access and a gate shall be provided at the entrance to the site and kept locked when an attendant or operator is not on duty.

105.3(6) Emergency access shall be provided to the site. Alleyways shall be maintained to provide access for fire-fighting equipment.

567—105.4(455B,455D) Specific requirements for yard waste composting facilities. This rule applies to facilities composting only yard waste. Facilities in conformance with this chapter shall not require a permit to operate.

105.4(1) Yard waste to be composted must be taken out of containers. Yard waste may be left in the bags only if the bags are biodegradable. The biodegradable bags shall be opened by some means before composting.

105.4(2) An all-weather surface must be used for the unloading area. The all-weather surface shall be made of materials that will permit accessibility during periods of inclement weather.

105.4(3) The area of the composting facility must be large enough for the volume of yard waste composted. One acre shall be used for every 6,000 cubic yards of yard waste composted. Windrows and alleys between windrows shall be kept distinct at all times. The composting facility may determine the volume of yard waste accepted by using the following conversion factors:

1 ton of grass = 5 cubic yards

1 ton of leaves = 8 cubic yards

1 ton of wood chips = 7.9 cubic yards

105.4(4) Compost must be turned at least once per month.

105.4(5) Composting shall be done on a surface which is 1 percent to 3 percent slope.

105.4(6) The facility must be 100 feet from any existing habitable residence unless there is written agreement with the owner of the residence and the site is separated by natural objects, plantings, fences, or other appropriate means. The residence must be in existence on the date of application for the original permit from the department. The written agreement shall be filed with the county recorder and recorded for abstract of title purposes, and a copy submitted to the department.

105.4(7) Ponding of water must be prevented.

105.4(8) Measures shall be taken to prevent water from running onto the facility from adjacent land.

105.4(9) Sites shall have a permanent sign posted at the entrance specifying:

- a. Name of operation,
- b. The operating hours,
- c. The name and telephone number of the responsible official,
- d. Materials which are accepted.

105.4(10) Litter shall be confined to the property on which the composting facility is located. At the conclusion of each day of operation, any litter strewn beyond the confines of the operating area shall be collected and stored in covered leakproof containers or properly disposed.

105.4(11) Record-keeping requirements. The yard waste compost facility shall maintain the following records: dates the compost was turned, volume of yard waste accepted, and volume of compost removed from the site. These records shall be maintained for a period of two years after last use of the compost site. These records shall be available at the site or city hall for inspection and evaluation by the department at any time during normal operating hours.

105.4(12) Notification. Before opening a yard waste composting facility, the department shall be notified in writing of the location of the composting facility. The notice shall also contain the legal description of the site, the landowner, the responsible official, and capacity of the site.

105.4(13) If finished compost is to be offered for sale as a soil conditioner or fertilizer, the compost must be registered by the department of agriculture and land stewardship under Iowa Code chapter 200, Iowa Fertilizer Law.

105.4(14) Storage of finished yard waste compost. Storage of finished compost is limited to 12 months.

105.4(15) If the operation of the facility results in a discharge of wastewater or if a runoff control basin is required then the facility must obtain a sanitary disposal permit and is subject to the conditions in this chapter.

567—105.5(455B,455D) Specific design requirements for solid waste composting facilities. The plans required in rule 567—102.12(455B) and the following design requirements shall be met.

105.5(1) Detailed engineering drawings of the site showing all initial and permanent roads, buildings and equipment to be installed; unloading and holding areas; fences and gates; landscaping devices; personnel and maintenance facilities; sewer and water lines.

105.5(2) Method of composting.

105.5(3) Duration of composting.

105.5(4) Method of removal of composted materials.

105.5(5) Final disposition of the composted materials.

105.5(6) The facility must be 500 feet from any existing habitable residence unless there is written agreement with the owner of the residence and the site is separated by natural objects, plantings, fences, or other appropriate means. The residence must be in existence on the date of application for the original permit from the department. The written agreement shall be filed with the county recorder and recorded for abstract of title purposes, and a copy submitted to the department.

105.5(7) Measures shall be taken to prevent water from running onto the facility from adjacent land.

105.5(8) Composting must take place on an impervious base that can support the load of the equipment used. The permeability coefficient of the base must be less than 1×10^{-7} cm/sec (0.00028 ft/day). This must be determined by permeameter testing of a minimum of two undisturbed samples.

105.5(9) The base may be constructed with asphaltic cement concrete, Portland cement concrete, or similar materials able to support the equipment load and meet the permeability coefficient.

105.5(10) The low permeability, thickness, and continuity of the base material must be maintained.

105.5(11) The area of the base must be adequate for the volume of solid waste being composted. Design calculations must be submitted supporting the proposed area of the base. These calculations should show support for equipment load and composting process used.

105.5(12) A detention basin must be constructed to provide collection of runoff water.

a. The detention basin shall be designed to contain runoff from a 25-year, 24-hour precipitation event. Pertinent information can be found in the department of agriculture and land stewardship publication, "Climatology of Iowa Series #2—1980." The detention basin must also collect all runoff water resulting from the composting facility.

b. The detention basin shall be located, constructed, and tested according to Chapter 18C of the "Iowa Wastewater Facilities Design Standards." (See 567—64.2(9)"*b*")

(1) One or more piezometers must be used to determine the water table as referenced in 18C.3.5.2.

(2) If a clay liner is used, the coefficient of permeability must be less than 1×10^{-7} cm/sec (0.00028 ft/day). This must be determined by permeameter testing of a minimum of two undisturbed samples.

(3) If a synthetic liner is used, testing for leaks must be done according to manufacturer's directions or methods approved by the department.

105.5(13) The detention basin shall not discharge to surface waters except as allowed by an NPDES permit.

105.5(14) A maintenance plan for the detention basin shall be submitted to the department. It should address maintenance of design volume and repair of leaks. If a clay liner is used, the plan should also address repair of cracks that form due to drying or as a result of the freeze/thaw cycle.

567—105.6(455B,455D) Specific operating requirements for solid waste composting facilities. The plans required in 567—102.13(455B,455D) shall detail the means by which the following operating requirements shall be met.

105.6(1) If mechanical sorting, grinding, or other processing of the waste occurs, operation shall be in conformance to 567—Chapter 104.

105.6(2) Process water must be available as needed during times of low precipitation and for enclosed projects.

105.6(3) The method to be used to prevent discharge from the detention basin must be specified (sewer or hauling equipment).

105.6(4) The compost must be turned at least once per week to provide aeration, or a system of air circulation must be used.

105.6(5) The method used to provide temperature control for proper composting and pathogen destruction must be specified.

105.6(6) If the criteria for finished compost as specified in 567—105.9(455B,455D) cannot be met, compost must be returned to process, disposed of in a landfill or other approved disposal method.

105.6(7) All holding areas for composted material and storage of finished (cured) compost must occur on an all-weather surface. The all-weather surface shall be accessible during periods of inclement weather.

105.6(8) To monitor the operation, records shall be maintained by the operator as required by the director. The records shall be maintained on the premises for departmental review upon inspection. These records shall include, but not be limited to, the following:

- a. Twice weekly temperature readings of compost piles, batches, or windrows.
- b. Volume of waste accepted daily.
- c. Volume or weight of compost removed from facility.
- d. Documentation showing compliance with 105.12(455B,455D) including application site legal descriptions.

105.6(9) A copy of the permit, engineering plans and reports shall be kept at the site at all times.

105.6(10) The compost must be passed through a screen with holes that are 3/8 inch or less in size.

105.6(11) If equipment is not dedicated to the compost project, it must be cleaned before removing it from the site. If sewage sludge is composted, the cleaning must include pathogen destruction. This may be accomplished by using a hot soap spray or any other germicidal product.

567—105.7(455B,455D) Reporting requirements for solid waste composting facilities.

105.7(1) An annual report of the analytical results required in 105.9(455B,455D) and record keeping required in 105.6(8) and 105.9(1) must be submitted to the department on July 1.

105.7(2) The records required in 105.6(8) and 105.9(1) should be condensed into monthly totals. The twice weekly temperature reports should consist only of data required to support 105.9(1).

567—105.8(455B,455D) Closure requirements. Solid waste composting facilities shall be closed in conformance with their approved closure plan, this rule, the requirements in rule 567—104.11(455B) and the requirements of 567—Chapter 102. Upon review of the closure plan, the department may require groundwater monitoring systems at the facility.

567—105.9(455B,455D) Finished compost. Only cured solid waste compost meeting the following criteria may be considered as finished compost which is ready for use. Compost must be held at a tem-

perature above 55 degrees Celsius (131 degrees Fahrenheit) for at least two weeks for the purpose of pathogen destruction. Other time periods may be approved by the department for aerated static piles or in-vessel composting.

567—105.10(455B,455D) Storage of finished solid waste compost. Storage of finished compost is limited to 12 months.

567—105.11(455B,455D) Compost for sale. If the compost is to be offered for sale as a soil conditioner or fertilizer, the compost must be registered by the department of agriculture and land stewardship under Iowa Code chapter 200, Iowa Fertilizer Law.

567—105.12(455B,455D) Application rates for finished compost. Compost resulting from only yard waste is not subject to the following application rates. Yard waste compost may be applied at any rate. The following application rates apply to all other composted materials meeting the criteria in 105.9(455B,455D).

The application rates are not in excess of 30 tons per acre/year dry weight and the constituent levels do not exceed the levels specified below per acre per year. (NOTE: Records maintained for the purpose of documenting compliance with this rule must include waste loading rate, concentration and calculated constituent loading rate for all lands so utilized.)

| Metal | Cumulative Limits Soil Cation Exchange Capacities | | |
|--------------|--|-------------|-------------|
| | <5 | 5-15 | > 15 |
| Cadmium (Cd) | 4.4 lb/ac | 8.9 lb/ac | 17.8 lb/ac |
| Copper (Cu) | 125 lb/ac | 250 lb/ac | 500 lb/ac |
| Lead (Pb) | 500 lb/ac | 1,000 lb/ac | 2,000 lb/ac |
| Nickel (Ni) | 125 lb/ac | 250 lb/ac | 500 lb/ac |
| Zinc (Zn) | 250 lb/ac | 500 lb/ac | 1,000 lb/ac |

If the above-mentioned criteria cannot be met, a land application permit is required pursuant to 567—121.3(455B).

567—105.13(455B,455D) Land application of yard waste. Land application of yard waste is allowed.

105.13(1) The yard waste shall be taken out of containers and the containers shall be removed from the land application site.

105.13(2) The site shall be managed to prevent waste from leaving the property line.

105.13(3) The land application shall not exceed 20 tons per acre per year.

105.13(4) Yard waste can be stored for two weeks before it must be land applied.

These rules are intended to implement Iowa Code sections 455B.304 and 455D.9.

[Filed 9/1/71; amended 2/13/74]

[Filed 2/25/77, Notice 9/22/76—published 3/23/77, effective 4/27/77]

[Filed 5/25/78, Notice 2/22/78—published 6/14/78, effective 7/19/78]

[Filed emergency 6/3/83—published 6/22/83, effective 7/1/83]

[Filed 8/24/84, Notice 5/9/84—published 9/12/84, effective 10/18/84]*

[Filed emergency 11/14/86—published 12/3/86, effective 12/3/86]

[Filed 8/31/89, Notice 5/17/89—published 9/20/89, effective 10/25/89]

[Filed 9/28/90, Notice 5/16/90—published 10/17/90, effective 11/21/90]

*Subrules 105.2(7) and 105.2(8) rescinded, subrules 105.2(9) to 105.2(11) renumbered 105.2(7) to 105.2(9).